

MASRLFSTN	HQSLLLPSSL	SQKTLISSPR	FVNNPSRRSP	IRSVLQFNRK	PELAGETPRI	60
.....	.....	.....	.....	MVFSTGNGNG	DDNSKGLERV	20
.....	.....	.....	.....	.....	.....MARI	4
.....	.....	.....	.....	.....	.....MARI	4
VVITSGKGGV	GKTTTTTANVG	LSLARYGFSV	VAIDADLGLR	NLDLLLGLN	RVNYTCVEVI	120
IVITSGKGGV	GKTTTTTANLG	MSIARLGYRV	ALIDADIGLR	NLDLLLGLN	RVLYTAMDIV	80
IVITSGKGGV	GKTTTTTANLG	AALARLGKKV	VLIDADFGLR	NLDLLLGLEQ	RIVYTAIDVL	64
IVITSGKGGV	GKTTSSAAIA	TGLAQKGKKT	VVIDFDIGLR	NLDLIMGERR	RVVYDFVNV	64
*****						
NGDCRIDQAL	VRDKRWSNFE	LLCISKPRSK	LPMGFGGKAL	EWLVDALKRT	PEFSPDFIII	180
EGQCRIDQAL	IRDKRWKNLA	LLAISKNRQK	YNVTT..KNM	QNLIDSVK..	ELGFQFVLI	135
EDECTIDQAL	VKDKRLPNLV	LLPAAQNRSK	DAINAEQMSQ	..LVEQLK..	..DKFDYIII	118
QGDATLNQAL	IKDKRTENLY	ILPASQTRDK	DADLTREGVA	..KVLDDLK..	..AMDFEFIVC	120
DCPAGIDAFG	ITAITPANEA	VLVTTPDITA	LRDADRVTGL	LECDGIRDIK		232
DCPAGIDVGF	INAIASAEQA	VIVTTPEITA	IRDADRVAAGL	LEANGIYNVK		187
DCPAGIEAGF	RNAVAPAEQA	IIVTTPEMSA	VRDADRVIGL	LEAEDIGKIS		168
DSPAGIETGF	ALMALYFADE	AIITTPEVSS	VRDSRILGI	LASKSRAEN	GEEPIKEH	178
MIVNRVRTDM	IKGEDMMSVL	DVQEMLGLSL	LGVIPEDSEV	IRSTNRGEPL	VLNKPPTLAG	292
LLVNRVRPDM	IQKNDMMSVR	DVQEMLGIPL	LGAIPEDTSV	IISTNKGEPL	VLNKKLTLSG	247
LIVNRLRPDM	VQLNQMISVE	DILDLLAVPL	IGILPDDQKI	IISTNKGEPL	VMECKLSVPG	228
LLLTRYNPGR	VSRGDMLSME	DVLEILTILK	VGVIPEDQSV	LRASNQGEPL	ILDINA.DAG	237
LAFEQAAWRL	.VEQDSMKAV	MVEEPEKKRG	.FF.SFFGG		<i>Arabidopsis</i>	328
IAFENAAARRL	IGKQDYFIDL	TSPQKGMFQK	.LQE.FFLGEE		<i>Chlorella</i>	286
LAFQNIARRL	EG.QDIPFLD	FMAAHNTLLN	RIRRRLLGG		<i>Synechocystis</i>	266
KAYADTVERL	LGEERPFR..	FIIEE.KK.G	.FLKRLFGG		<i>E. coli</i>	271

FIG. 1

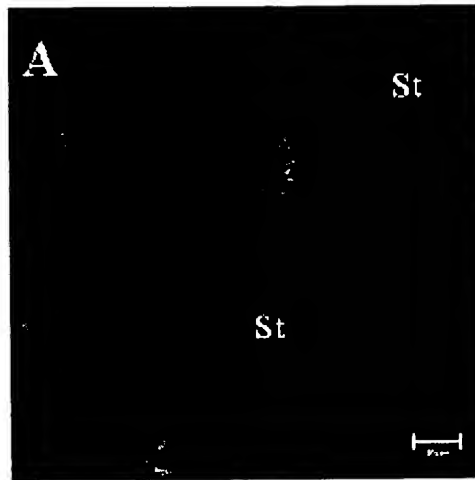


FIG. 2A

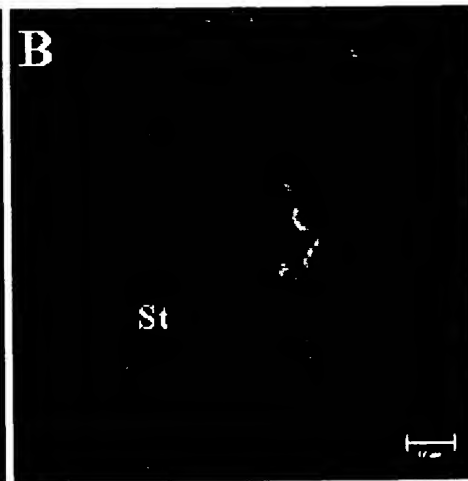


FIG. 2B

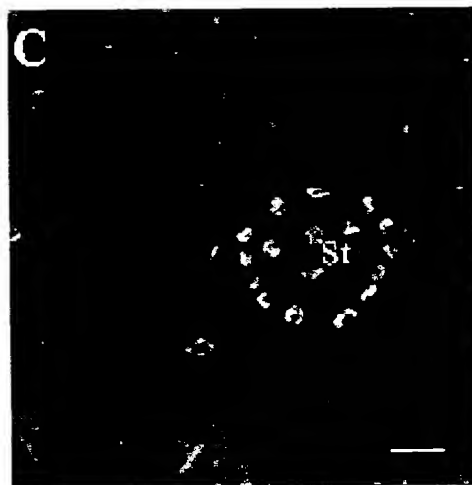


FIG. 2C

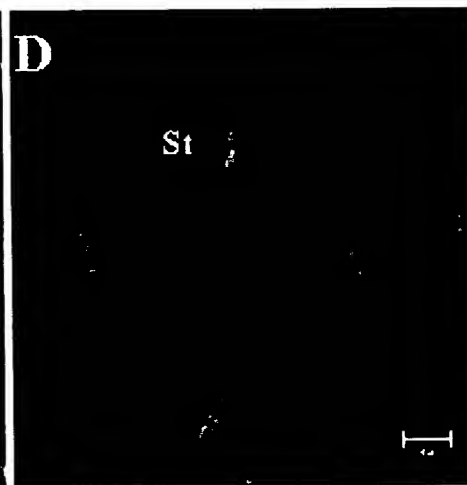


FIG. 2D

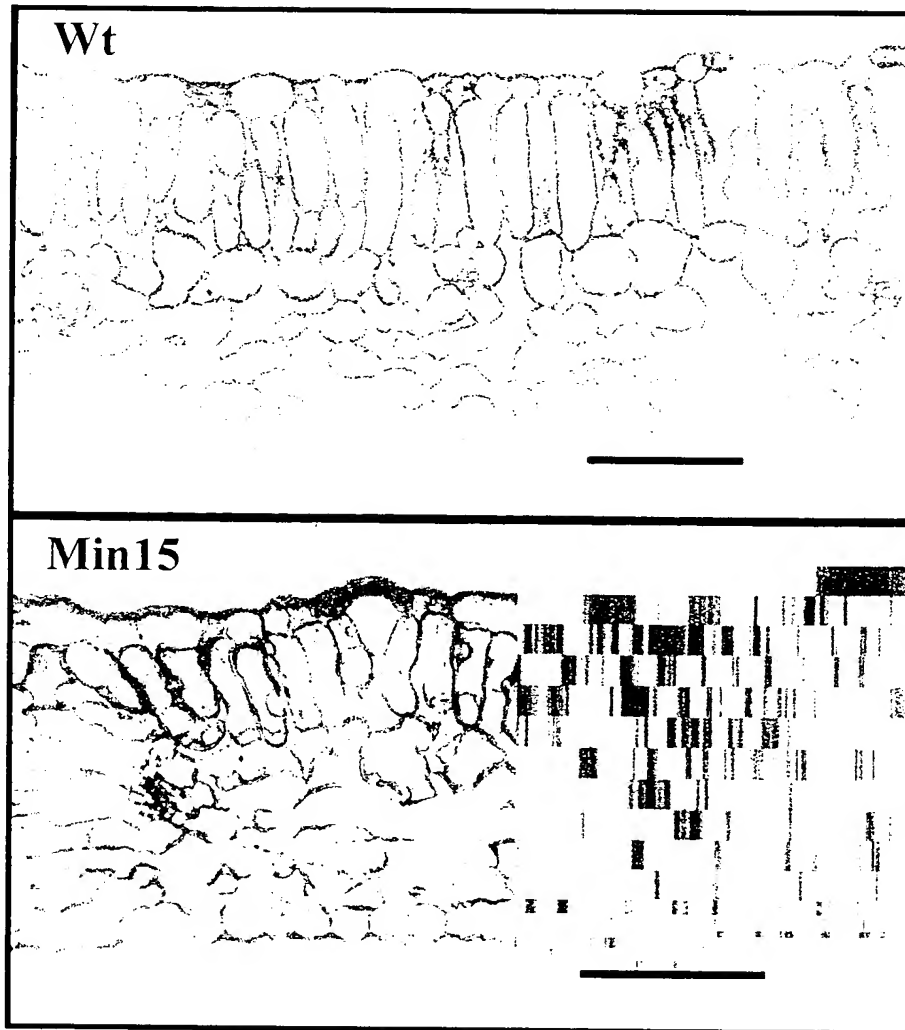


FIG. 3

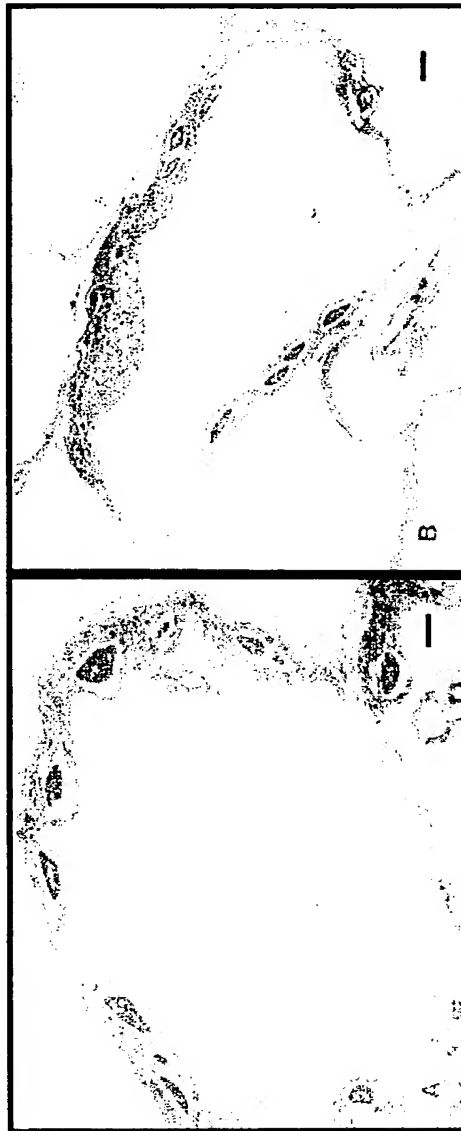


FIG. 4A

FIG. 4B

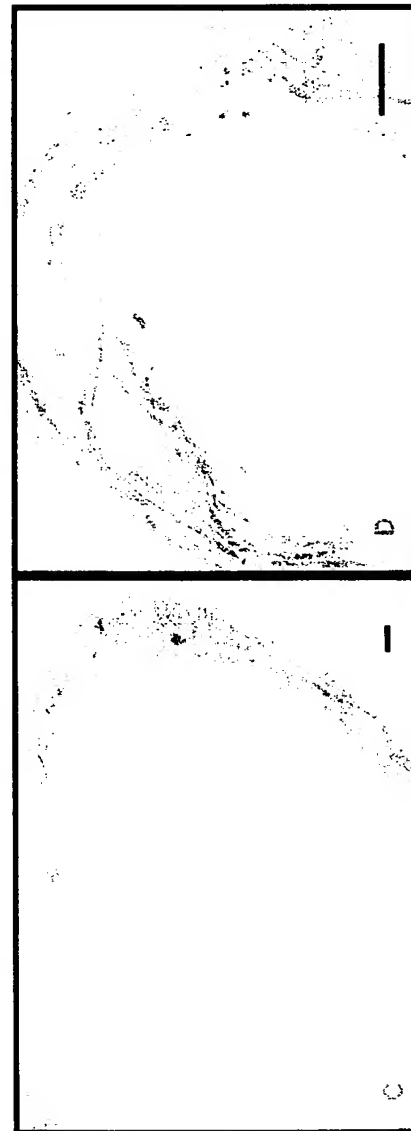


FIG. 4C

FIG. 4D

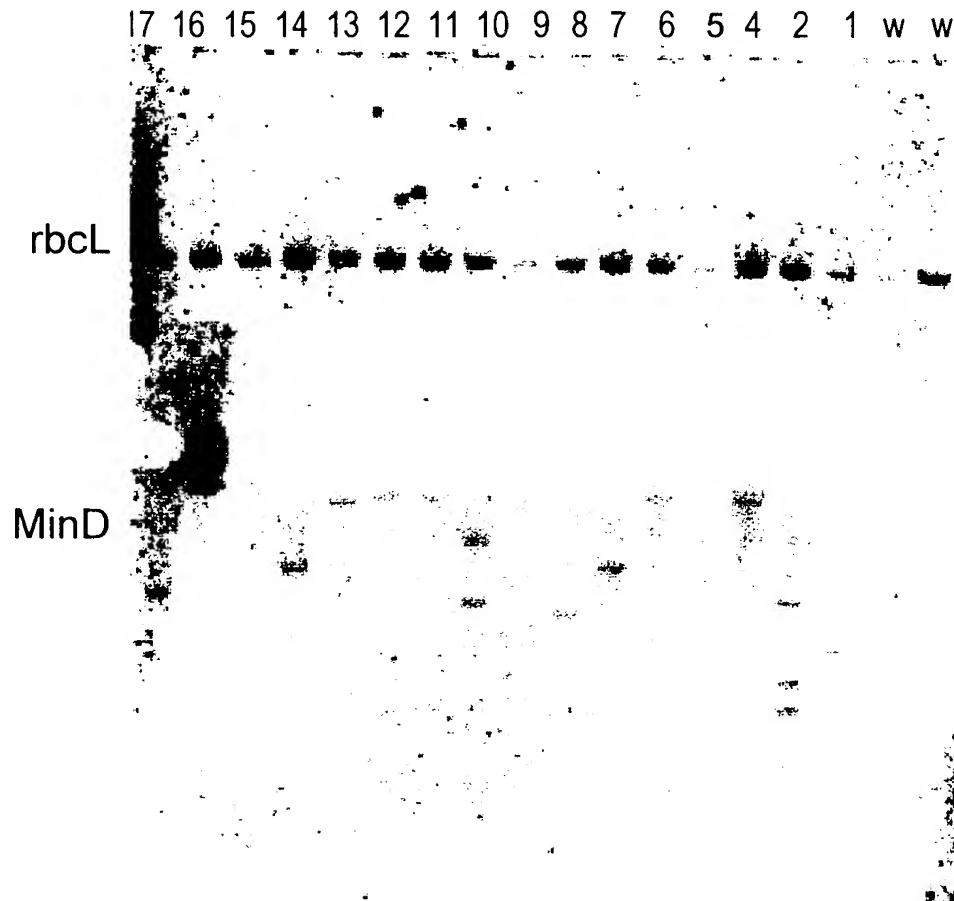


FIG. 5

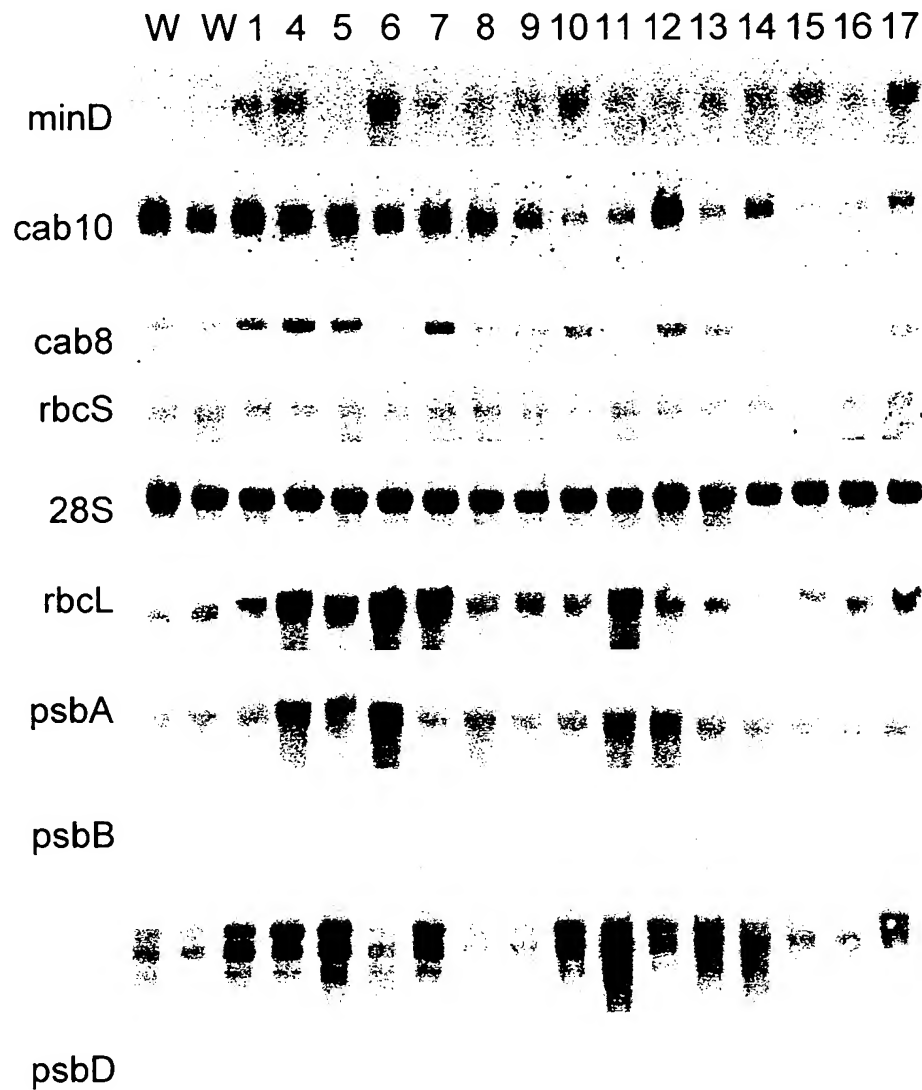


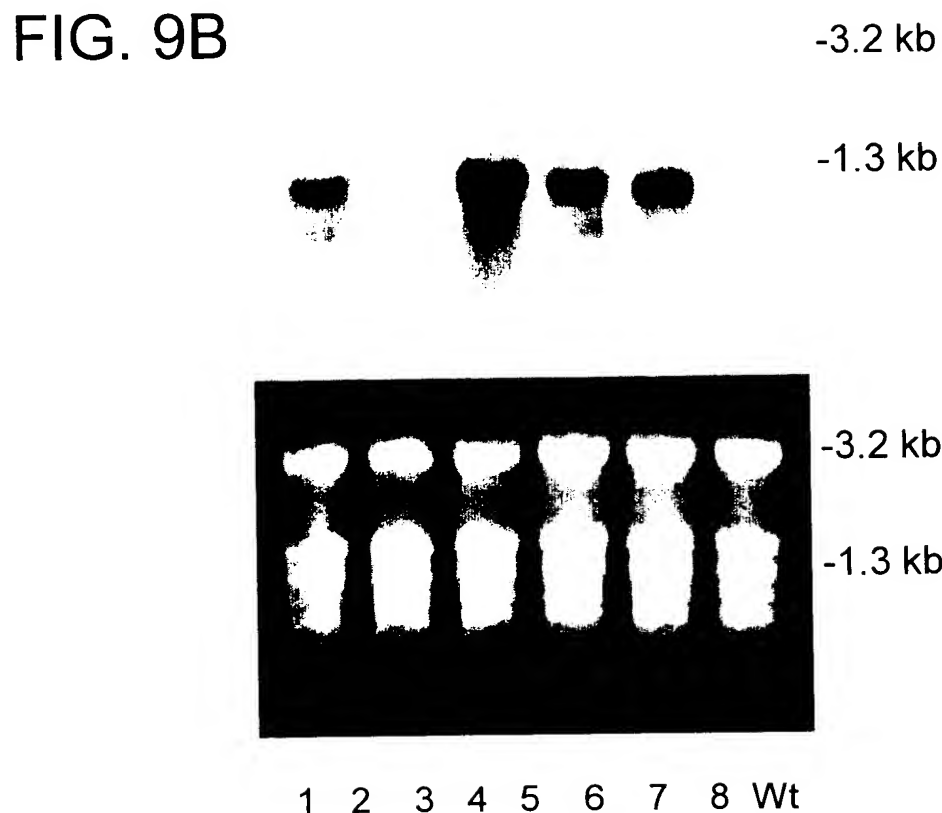
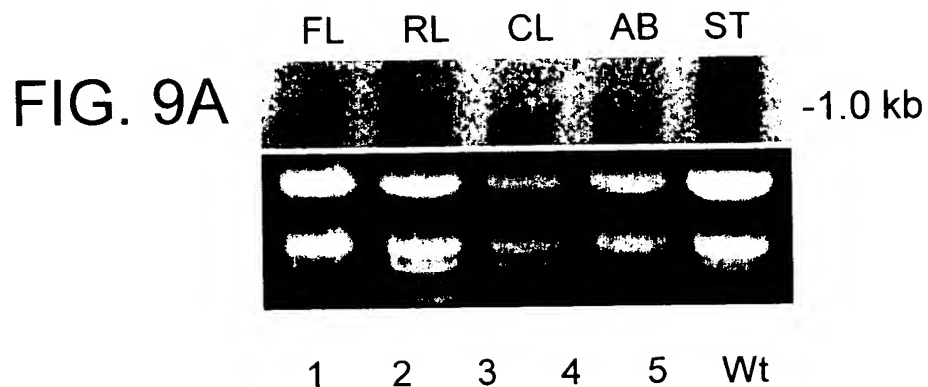
FIG. 6

<u>Chlorophyll Content</u>			<u>Fluorescence Measurements</u>		
Line	Total Chl (ug/mg)	Chla/b (ratio)	F <sub>o</sub> (relative units)	F <sub>m</sub> (relative units)	F <sub>v</sub> /F <sub>m</sub> (relative units)
WT	1.99	3.11	137.4±12.0	616.6±34.0	0.777±0.015
<i>AtMin</i> 4	1.71	2.64	135.7±11.8	636.2±27.1	0.787±0.017
<i>AtMin</i> 5	1.58	3.01	136.5±17.1	534.9±66.1	0.757±0.020
<i>AtMin</i> 8	1.46	3.07	128.5±32.3	489.9±78.6	0.741±0.037
<i>AtMin</i> 9	1.66	3.00	125.5±19.9	520.5±58.3	0.759±0.018
<i>AtMin</i> 10	1.53	2.95	136.5±11.3	543.1±14.3	0.748±0.025
<i>AtMin</i> 17	1.44	2.71	139.5±20.6	564.9±32.7	0.756±0.032
WT	1.69	3.08	105.6±14.9	441.9±58.5	0.760±0.016
<i>AtMin</i> 1	1.74	2.80	126.4±08.6	436.7±27.2	0.714±0.035
<i>AtMin</i> 12	1.60	3.11	123.4±16.6	455.3±84.4	0.724±0.040
<i>AtMin</i> 13	1.91	3.28	115.9±17.9	441.5±64.5	0.737±0.011
<i>AtMin</i> 14	1.59	3.07	113.6±17.2	444.1±58.2	0.743±0.017
<i>AtMin</i> 15	1.59	2.94	119.1±19.5	433.0±45.9	0.724±0.037
<i>AtMin</i> 16	1.71	2.89	122.1±10.7	447.7±41.0	0.725±0.019

The measurements were taken over two days, and due to variation in the F<sub>o</sub> and F<sub>m</sub> measurements these were kept separate. Fluorescence measurements are averaged from eight samples.

FIG. 7

8  
G  
F



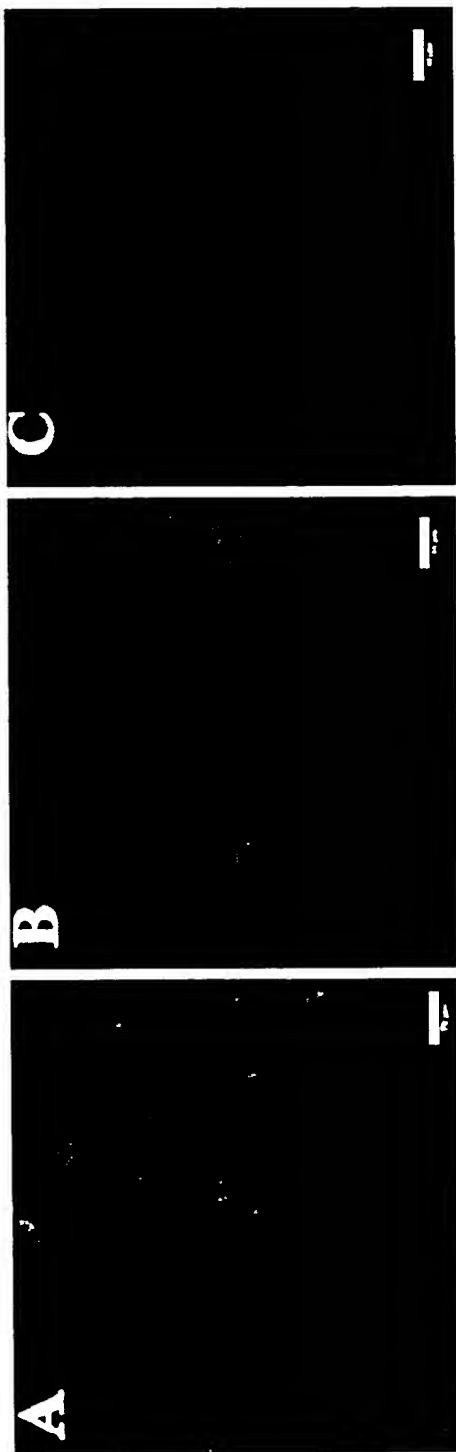


FIG. 10A

FIG. 10B

FIG. 10C

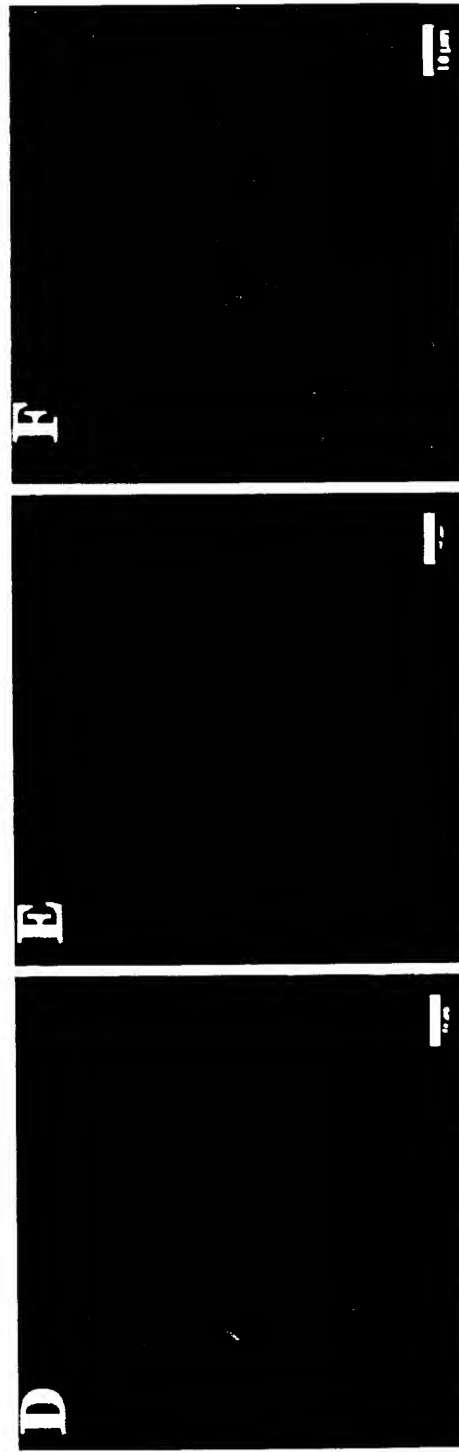


FIG. 10D

FIG. 10E

FIG. 10F

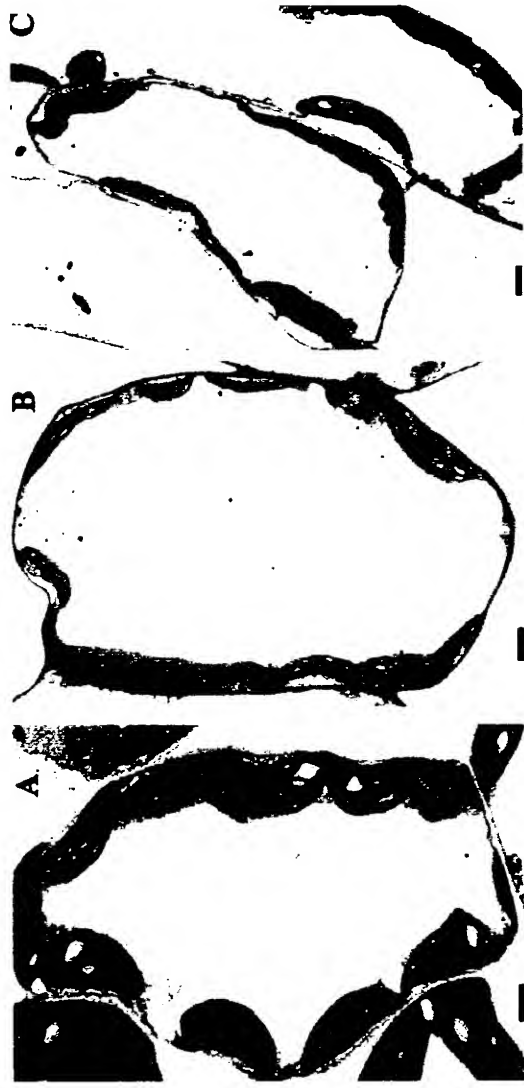


FIG. 11A      FIG. 11B      FIG. 11C



FIG. 11D      FIG. 11E      FIG. 11F



FIG. 12A      FIG. 12B      FIG. 12C



FIG. 13A

FIG. 13B

FIG. 13C



FIG. 13D

FIG. 13E

FIG. 13F